

IN THE CLAIMS:

1. (Currently amended) A method in a data processing system for ~~generating partial differential equations for processing~~ perspective corrected texture coordinates, comprising the steps of:
 - a) ~~calculating~~ identifying texture coordinates at each of four adjacent pixels;
 - b) ~~calculating the~~ performing a calculation to identify a difference between the texture coordinates;
 - c) ~~calculating~~ identifying a perspective correction factor based on perspective correction coordinates; [[and]]
 - d) generating partial differential equations by multiplying each texture coordinate difference by the perspective correction factor;
wherein steps a) through d) include sharing data from each of the four adjacent pixels; and
 - e) using the partial differential equations to render an image, wherein the rendered image is displayed on a display device.
2. (Currently amended) The method according to claim 1, wherein the step of ~~calculating~~ performing a calculation to identify the difference between coordinates uses a set of subtracts in parallel.
3. (Currently amended) The method according to claim 1, wherein the step of ~~calculating~~ identifying the perspective correction factor uses a set of multiplies in parallel.
4. (Currently amended) The method according to claim 1, wherein ~~calculating the~~ step of generating the partial differential equations for a single texture coordinate for all four pixels requires 12 subtracts and 32 multiplies.
5. (Original) The method according to claim 1, wherein subsequent coordinates are found by adding the partial differential equations in a given direction.

6. (Currently amended) A computer program product in a computer readable medium for use in a data processing system, for ~~generating partial differential equations~~ for processing perspective corrected texture coordinates, the computer program product comprising:

- a) first instructions for ~~calculating~~ identifying texture coordinates at each of four adjacent pixels;
- b) second instructions for ~~calculating the~~ performing a calculation to identify a difference between the texture coordinates;
- c) third instructions for ~~calculating~~ identifying a perspective correction factor based on perspective correction coordinates; [[and]]
- d) fourth instructions for generating partial differential equations by multiplying each texture coordinate difference by the perspective correction factor; wherein instructions a) through d) further include instructions for sharing data from each of the four adjacent pixels; and
- e) fifth instructions for using the partial differential equations to render an image, wherein the rendered image is displayed on a display device.

7. (Currently amended) The computer program product according to claim 6, wherein the instructions for ~~calculating~~ performing a calculation to identify the difference between coordinates use a set of subtracts in parallel.

8. (Currently amended) The computer program product according to claim 6, wherein the instructions for ~~calculating~~ identifying the perspective correction factor use a set of multiplies in parallel.

9. (Currently amended) The computer program product according to claim 6, wherein ~~calculating the instructions for generating~~ the partial differential equations for a single texture coordinate for all four pixels require 12 subtracts and 32 multiplies.

10. (Original) The computer program product according to claim 6, wherein subsequent coordinates are found by adding the partial differential equations in a given direction.
11. (Currently amended) A system for ~~generating partial differential equations for~~ processing perspective corrected texture coordinates, comprising:
- a) a first ~~calculating~~ identifying component which ~~calculates~~ identifies texture coordinates at each of four adjacent pixels;
 - b) a second ~~calculating~~ identifying component which ~~calculates~~ identifies the difference between the texture coordinates by performing a calculation;
 - c) a third ~~calculating~~ identifying component which ~~calculates~~ identifies a perspective correction factor based on perspective correction coordinates; [[and]]
 - d) a ~~multiplying~~ generating component for generating partial differential equations by multiplying each texture coordinate difference by the perspective correction factor;
- wherein components a) through d) share data from each of the four adjacent pixels; and
- e) a rendering component for rendering an image using the partial differential equations, wherein the rendered image is displayed on a display device.
12. (Currently amended) The system according to claim 11, wherein the second ~~calculating~~ identifying component which ~~calculates~~ performs a calculation to identify the difference between coordinates uses a set of subtracts in parallel.
13. (Currently amended) The system according to claim 11, wherein the third ~~calculating~~ identifying component which ~~calculates~~ identifies the perspective correction factor uses a set of multiplies in parallel.
14. (Currently amended) The system according to claim 11, wherein ~~calculating~~ generating the partial differential equations for a single texture coordinate for all four pixels requires 12 subtracts and 32 multiplies.

15. (Original) The system according to claim 11, wherein subsequent coordinates are found by adding the partial differential equations in a given direction.